

Release notes for ENDF/B Development n-090\_Th\_233  
evaluation



April 26, 2017

- fudge-4.0 Warnings:

1. Cross section does not match sum of linked reaction cross sections  
*crossSectionSum label 0: total (Error # 0): CS Sum.*

**WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.64%**

2. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 1 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [nubar]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

3. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 3 (total): / Form 'eval': / Component 0 (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

4. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 3 (total): / Form 'eval': / Component 1 (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

5. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 4 (n + Th233): / Form 'eval': / Component 0 (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 4 (n + Th233): / Form 'eval': / Component 1 (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

7. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 6 (n[multiplicity:'2'] + Th232 + gamma): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (7.835889e-09) is too small**

8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 8 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission]): / Form 'eval': / Component 0 (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 8 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed']) + gamma [total fission]): / Form 'eval': / Component 1 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

10. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 10 (n + (Th233\_e1 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (1.993830e-10) is too small

11. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 11 (n + (Th233\_e2 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (6.825886e-10) is too small

12. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 12 (n + (Th233\_e3 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (2.720735e-09) is too small

13. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 13 (n + (Th233\_e4 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (7.053233e-11) is too small

14. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 14 (n + (Th233\_e5 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (3.904422e-10) is too small

15. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 15 (n + (Th233\_e6 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (3.447207e-10) is too small

16. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 16 (n + (Th233\_e7 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (2.889079e-10) is too small

17. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 17 (n + (Th233\_e8 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (5.254498e-09) is too small
18. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 18 (n + (Th233\_e9 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (3.920978e-09) is too small
19. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 19 (n + (Th233\_e10 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (6.684591e-11) is too small
20. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 20 (n + (Th233\_e11 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (6.026164e-10) is too small
21. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 21 (n + (Th233\_e12 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (4.423793e-10) is too small
22. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 22 (n + (Th233\_e13 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (1.924584e-09) is too small
23. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 23 (n + (Th233\_e14 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (2.473528e-09) is too small
24. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 24 (n + (Th233\_e15 -> Th233 + gamma)): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (1.871422e-09) is too small

25. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 25 ( $n + (Th233\_e16 \rightarrow Th233 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (1.437898e-11) is too small

26. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 26 ( $n + (Th233\_e17 \rightarrow Th233 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (1.924045e-10) is too small

27. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 27 ( $n + (Th233\_e18 \rightarrow Th233 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (1.823408e-09) is too small

28. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 28 ( $n + (Th233\_e19 \rightarrow Th233 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (2.026821e-09) is too small

29. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 29 ( $n + (Th233\_e20 \rightarrow Th233 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (1.800663e-09) is too small

30. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 30 ( $n + (Th233\_c \rightarrow Th233 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

31. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 31 ( $\gamma$ ): / Form 'eval': / Component 0 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

32. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 31 ( $\gamma$ ): / Form 'eval': / Component 1 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

33. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 32 (n + Th233 [angular distribution]): / Form 'eval': (Error # 1): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

34. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 33 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

35. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 34 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

36. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 35 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

37. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 36 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'6 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

- **fudge-4.0 Errors:**

1. ENDF format insists that all outgoing fission neutrons, delayed or otherwise, have spectra. For delayed neutrons this is tough.

*Reading ENDF file: ../n-090\_Th\_233.endf (Error # 0): No delayed n dist*

**WARNING: More than one delayed fission neutron decay time but no MF = 5 data**

2. Duplicate Eout in outgoing distribution

*Reading ENDF file: ../n-090\_Th\_233.endf (Error # 1): Bad Eout*

**WARNING: skipping duplicate e\_out = 6190270.0, i1 = 77 0 1e-05**

3. Energy range of data set does not match cross section range

*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_a / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (107805.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

4. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (107805.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

WARNING: Domain doesn't match the cross section domain: (107805.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

WARNING: Domain doesn't match the cross section domain: (120000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

WARNING: Domain doesn't match the cross section domain: (280609.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

... plus 25 more instances of this message

5. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_b / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (107805.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

6. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_c / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (120000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

7. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_d / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (280609.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

8. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_e / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (158684.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

9. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_f / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (200000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

10. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_g / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (158684.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

11. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_h / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (158684.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

12. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_i / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (158684.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
13. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_j / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (220952.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
14. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_k / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (327411.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
15. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_l / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (200000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
16. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_m / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (263375.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
17. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_n / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
18. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_o / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (250000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
19. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_p / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
20. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_q / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

21. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_r / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

22. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_s / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

23. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_t / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

24. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_u / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

25. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_v / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

26. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_w / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

27. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_x / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

28. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_y / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

29. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_z / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)

30. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_aa / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
31. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_ab / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
32. Energy range of data set does not match cross section range  
*reaction label 21: n + (Th233\_c -> Th233 + gamma) / Product: Th233\_c / Decay product: gamma\_ac / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (104804.0 -> 20000000.0)
33. Calculated and tabulated Q values disagree.  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma (Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: -4450779.316589355 eV vs -4786390. eV!
34. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_a / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
35. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_a / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
36. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_b / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (5500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
37. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_b / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (5500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
38. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_c / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (5500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

39. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (5500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

40. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_d / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (5500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

41. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_d / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (5500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

42. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_e / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

43. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_e / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

44. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_f / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

45. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_f / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

46. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_g / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

47. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_g / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

48. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_h / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

49. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_h / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

50. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_i / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

51. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_i / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

52. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_j / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

53. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_j / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

54. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_k / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

55. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_k / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

56. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_l / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

57. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_l / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
58. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_m / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
59. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_m / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
60. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_n / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
61. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_n / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
62. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_o / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
63. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_o / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
64. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_p / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
65. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_p / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

66. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_q / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

67. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_q / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

68. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_r / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

69. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_r / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

70. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_s / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

71. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_s / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

72. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_t / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

73. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_t / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

74. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_u / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

75. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_u / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
76. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_v / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
77. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_v / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
78. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_w / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
79. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_w / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
80. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_x / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
81. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_x / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
82. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_y / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
83. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_y / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

84. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_z / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

85. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_z / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

86. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_aa / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

87. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_aa / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

88. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ab / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

89. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ab / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

90. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ac / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

91. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ac / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

92. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ad / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

93. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ad / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

94. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ae / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

95. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ae / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

96. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_af / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

97. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_af / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

98. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ag / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

99. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ag / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

100. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ah / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

101. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ah / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

102. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ai / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
103. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ai / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
104. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_aj / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
105. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_aj / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
106. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ak / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
107. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ak / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
108. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_al / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
109. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_al / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
110. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_am / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

111. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_am / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
112. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_an / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
113. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_an / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
114. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ao / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
115. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ao / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
116. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ap / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
117. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ap / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
118. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_aq / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
119. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_aq / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

120. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ar / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
121. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ar / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
122. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_as / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
123. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_as / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
124. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_at / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
125. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_at / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
126. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_au / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
127. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_au / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
128. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_av / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)

129. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_av / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
130. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_aw / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
131. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_aw / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
132. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ax / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
133. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ax / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6000000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
134. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ay / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
135. Energy range of data set does not match cross section range  
*reaction label 22: n[multiplicity:'2'] + Th232 + gamma / Product: gamma\_ay / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (6500000.0 -> 20000000.0) vs (4807100.0 -> 20000000.0)
136. Calculated and tabulated Q values disagree.  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma (Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: -10891067.43667603 eV vs -1.12267e7 eV!
137. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_a / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

138. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_a / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
139. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_b / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
140. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_b / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
141. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_c / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
142. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
143. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_d / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
144. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_d / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
145. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_e / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
146. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_e / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

147. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_f / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
148. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_f / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
149. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_g / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
150. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_g / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
151. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_h / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
152. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_h / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
153. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_i / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
154. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_i / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
155. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_j / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

156. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_j / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

157. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_k / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

158. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_k / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

159. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_l / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

160. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_l / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

161. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_m / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

162. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_m / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

163. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_n / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

164. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_n / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

165. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_o / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
166. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_o / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
167. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_p / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
168. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_p / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
169. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_q / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
170. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_q / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
171. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_r / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
172. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_r / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
173. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_s / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

174. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_s / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
175. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_t / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
176. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_t / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
177. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_u / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
178. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_u / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
179. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_v / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
180. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_v / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
181. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_w / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
182. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_w / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

183. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_x / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
184. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_x / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
185. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_y / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
186. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_y / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
187. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_z / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
188. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_z / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
189. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_aa / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
190. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_aa / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
191. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ab / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

192. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ab / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
193. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ac / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
194. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ac / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
195. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ad / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
196. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ad / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
197. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ae / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
198. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ae / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
199. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_af / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
200. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_af / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

201. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ag / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

202. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ag / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

203. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ah / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

204. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ah / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

205. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ai / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

206. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ai / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

207. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_aj / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

208. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_aj / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

209. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ak / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

210. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...ak / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
211. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...al / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
212. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...al / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
213. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...am / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
214. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...am / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
215. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...an / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
216. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...an / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
217. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...ao / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
218. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_...ao / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

219. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ap / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
220. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ap / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
221. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_aq / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
222. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_aq / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
223. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ar / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
224. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_ar / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
225. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_as / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
226. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_as / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
227. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_at / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)

228. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_at / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
229. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_au / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
230. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_au / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
231. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_av / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
232. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_av / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
233. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_aw / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
234. Energy range of data set does not match cross section range  
*reaction label 23: n[multiplicity:'3'] + Th231 + gamma / Product: gamma\_aw / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (12000000.0 -> 20000000.0) vs (11275300.0 -> 20000000.0)
235. Calculated and tabulated Q values disagree.  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma (Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: -16009082.99020386 eV vs -1.63447e7 eV!
236. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_a / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17000000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)

237. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_a / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17000000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
238. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_b / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
239. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_b / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
240. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_c / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17000000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
241. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17000000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
242. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_d / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
243. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_d / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
244. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_e / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
245. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_e / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)

246. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_f / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
247. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_f / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
248. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_g / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
249. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_g / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
250. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_h / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
251. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_h / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
252. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_i / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
253. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_i / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
254. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_j / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)

255. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_j / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
256. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_k / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
257. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_k / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
258. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_l / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
259. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_l / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
260. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_m / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
261. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_m / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
262. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_n / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
263. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_n / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)

264. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_o / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
265. Energy range of data set does not match cross section range  
*reaction label 24: n[multiplicity:'4'] + Th230 + gamma / Product: gamma\_o / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (17500000.0 -> 20000000.0) vs (16415400.0 -> 20000000.0)
266. Calculated and tabulated Q values disagree.  
*reaction label 26: Th234 + gamma (Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: 6525878.0496521 eV vs 6190270. eV!
267. Multiplicity does not match sum of linked product multiplicities!  
*multiplicitySum label 23: n + (Th233\_c -> Th233 + gamma) total gamma multiplicity (Error # 0): summedMultiplicityMismatch*
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 40.51%
268. Multiplicity does not match sum of linked product multiplicities!  
*multiplicitySum label 24: n[multiplicity:'2'] + Th232 + gamma total gamma multiplicity (Error # 0): summedMultiplicityMismatch*
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 72.19%
269. Multiplicity does not match sum of linked product multiplicities!  
*multiplicitySum label 25: n[multiplicity:'3'] + Th231 + gamma total gamma multiplicity (Error # 0): summedMultiplicityMismatch*
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 99.97%
270. Multiplicity does not match sum of linked product multiplicities!  
*multiplicitySum label 26: n[multiplicity:'4'] + Th230 + gamma total gamma multiplicity (Error # 0): summedMultiplicityMismatch*
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 100.00%
271. Calculated and tabulated Q values disagree.  
*fissionComponent label 0: /reactionSuite/fissionComponents/fissionComponent[@label='0'] (Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: 218016747159.4047 eV vs 1.77696e8 eV!
272. Calculated and tabulated Q values disagree.  
*fissionComponent label 1: /reactionSuite/fissionComponents/fissionComponent[@label='1'] (Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: 218016747159.4047 eV vs 1.77696e8 eV!

273. Calculated and tabulated Q values disagree.  
*fissionComponent label 2: /reactionSuite/fissionComponents/fissionComponent[@label='2']*  
*(Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: 218016747159.4047 eV vs 1.77696e8 eV!

274. Calculated and tabulated Q values disagree.  
*fissionComponent label 3: /reactionSuite/fissionComponents/fissionComponent[@label='3']*  
*(Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: 218016747159.4047 eV vs 1.77696e8 eV!

275. A covariance matrix was not positive semi-definite, so it has negative eigenvalues.  
*Section 32 (n + Th233 [angular distribution]): / Form 'eval': / LegendreLValue L=1 vs 1* (Error # 0): Bad evs

WARNING: 10 negative eigenvalues! Worst case = -1.147306e-03

- njoy2012 Warnings:

1. Evaluation has no resonance parameters given  
*unresr...calculation of unresolved resonance cross sections (0): No RR*

---message from unresr---mat 9043 has no resonance parameters  
copy as is to nout

2. In some evaluations, the partial fission reactions MT=19, 20, 21, and 38 are given in File 3, but no corresponding distributions are given. In these cases, it is assumed that MT=18 should be used for the fission neutron distributions.  
*heatr...prompt kerma (0): HEATR/hinit (3)*

---message from hinit---mt19 has no spectrum  
mt18 spectrum will be used.

3. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (1): HEATR/hinit (4)*

---message from hinit---mf6, mt 16 does not give recoil za= 90232  
one-particle recoil approx. used.

4. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (2): HEATR/hinit (4)*

---message from hinit---mf6, mt 17 does not give recoil za= 90231  
one-particle recoil approx. used.

5. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (3): HEATR/hinit (4)*

---message from hinit---mf6, mt 37 does not give recoil za= 90230  
one-particle recoil approx. used.

6. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (4): HEATR/hinit (4)*

---message from hinit---mf6, mt 51 does not give recoil za= 90233  
one-particle recoil approx. used.

7. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (5): HEATR/hinit (4)*

---message from hinit---mf6, mt 52 does not give recoil za= 90233  
one-particle recoil approx. used.

8. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (6): HEATR/hinit (4)*

---message from hinit---mf6, mt 53 does not give recoil za= 90233  
one-particle recoil approx. used.

9. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (7): HEATR/hinit (4)*

---message from hinit---mf6, mt 54 does not give recoil za= 90233  
one-particle recoil approx. used.

10. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (8): HEATR/hinit (4)*

---message from hinit---mf6, mt 55 does not give recoil za= 90233  
one-particle recoil approx. used.

11. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (9): HEATR/hinit (4)*

---message from hinit---mf6, mt 56 does not give recoil za= 90233  
one-particle recoil approx. used.

12. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (10): HEATR/hinit (4)*

---message from hinit---mf6, mt 57 does not give recoil za= 90233  
one-particle recoil approx. used.

13. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (11): HEATR/hinit (4)*

---message from hinit---mf6, mt 58 does not give recoil za= 90233  
one-particle recoil approx. used.

14. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (12): HEATR/hinit (4)*

---message from hinit---mf6, mt 59 does not give recoil za= 90233  
one-particle recoil approx. used.

15. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (13): HEATR/hinit (4)*

---message from hinit---mf6, mt 60 does not give recoil za= 90233  
one-particle recoil approx. used.

16. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (14): HEATR/hinit (4)*

---message from hinit---mf6, mt 61 does not give recoil za= 90233  
one-particle recoil approx. used.

17. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (15): HEATR/hinit (4)*

---message from hinit---mf6, mt 62 does not give recoil za= 90233  
one-particle recoil approx. used.

18. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (16): HEATR/hinit (4)*

---message from hinit---mf6, mt 63 does not give recoil za= 90233  
one-particle recoil approx. used.

19. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (17): HEATR/hinit (4)*

---message from hinit---mf6, mt 64 does not give recoil za= 90233  
one-particle recoil approx. used.

20. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (18): HEATR/hinit (4)*

---message from hinit---mf6, mt 65 does not give recoil za= 90233  
one-particle recoil approx. used.

21. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (19): HEATR/hinit (4)*

---message from hinit---mf6, mt 66 does not give recoil za= 90233  
one-particle recoil approx. used.

22. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (20): HEATR/hinit (4)*

---message from hinit---mf6, mt 67 does not give recoil za= 90233  
one-particle recoil approx. used.

23. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (21): HEATR/hinit (4)*

---message from hinit---mf6, mt 68 does not give recoil za= 90233  
one-particle recoil approx. used.

24. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (22): HEATR/hinit (4)*

---message from hinit---mf6, mt 69 does not give recoil za= 90233  
one-particle recoil approx. used.

25. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (23): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 70 does not give recoil za= 90233
one-particle recoil approx. used.
```

26. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (24): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 91 does not give recoil za= 90233
one-particle recoil approx. used.
```

27. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (25): HEATR/hinit (4)*

```
---message from hinit---mf6, mt102 does not give recoil za= 90234
photon momentum recoil used.
```

28. There is a problem with the fission energy release.  
*heatr...prompt kerma (34): HEATR/nheat (3)*

```
---message from nheat---changed q from 1.776960E+08 to 1.719502E+08
for mt 18
```

29. Evaluation has no resonance parameters given  
*purr...probabalistic unresolved calculation (0): No RR*

```
---message from purr---mat 9043 has no resonance parameters
copy as is to nout
```

- **xsectplotter** Errors:

1. ENDF format insists that all outgoing fission neutrons, delayed or otherwise, have spectra. For delayed neutrons this is tough.  
*(Error # 2): No delayed n dist*

```
WARNING: More than one delayed fission neutron decay time but no MF = 5 data
```

2. Duplicate Eout in outgoing distribution  
*(Error # 3): Bad Eout*

```
WARNING: skipping duplicate e_out = 6190270.0, i1 = 77 0 1e-05
```